Annals of the Natal Museum, Vol. XV, part 13, issued 15 September, 1961

African Trombiculidae (Acarina). 2. The Genera *Eutrombicula* Ew. and *Sauriscus* Lawr., with description of a new Subgenus, *Squamicola.*

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THE genus *Eutrombicula* was first raised by Ewing (1938) with the common North American pest-chigger *E. alfreddugesi* (Ouds.) (*Trombicula irritans* of authors) as the type species. He distinguished this genus from *Trombicula* on two characters : the division of the palpal claw into only two prongs, and the presence of less than 30 body-setæ on the dorsum, in the larvæ. Later, Ewing (1943) separated off a genus *Acariscus* : the synonymy of this, and a general account of *Eutrombicula*, were dealt with by Michener (1946) and Fuller (1952). Subsequently, it became difficult to separate *Eutrombicula* at the generic level from various species of *Trombicula* Berl., sensu lato, and *Eutrombicula* was thenceforth usually regarded as a subgenus of *Trombicula*. It was so treated in the checklist of world chiggers of Wharton and Fuller (1952).

The post-larval stages of *Eutrombicula* species typically have parasensillary eyes, that is, eyes placed close to and immediately posterolateral to the sensillary bases. On the basis of a particular interpretation of the original drawings of *Trombicula minor* Berl., the type of the genus *Trombicula*, known only from adults, Womersley (1952) assumed that the adults of *T. minor* possessed parasensillary eyes. He therefore sunk what was known as *Eutrombicula* in his newly-interpreted subgenus *Trombicula*. This was later rectified by Womersley and Audy (1957).

In 1954, Dr. R. F. Lawrence very kindly lent his large collection (new species described by Lawrence, 1949, 1951) to one of us (J.R.A.) and also gave permission and encouragement to have the batch-slides remounted, one chigger per slide, so that holotypes could be kept together and paratypes be available for distribution. Accompanying the type slides was a quantity of tubed material. Dr. Zumpt and Dr. Lawrence also sent a number of collections from which fresh material could be studied. All this was studied in Malaya, the new species being sent to the Belgian Congo (P. H. V.-G.) for study together with the great wealth of material which was being collected there. Details are being prepared for publication. The present paper summarizes data on species already described which can be correctly ascribed to *Eutrombicula* if this genus is regarded in a broader sense than hitherto.

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Genus *Eutrombicula* Ewing, revised.

Type : *Microthrombidium alfreddugesi* Oudemans, 1910.

Diagnosis (after Audy, 1956, p. 31, but excluding subgenus *Eltonella* Audy and the "*fieldi*-group ").—Trombiculinids of which the larvæ have the usual 5 scutal setæ and unexpanded barbed sensillæ ; scutum pentagonal, subpentagonal, or with posterior border crescentic (usually in the broader scuta), and the anterior border usually extended in front of the anterolateral setæ to form anterolateral " shoulders " ; palpal claw 2- or 3-pronged, when 2-pronged with the accessory prong ventral and typically ventro-internal ; palpal tarsus with a subterminala (" S ") and 7 barbed or plumose setæ (*i.e.*, 7B.S) ; usually at least one long nude seta (mastitarsala) on tarsus-III, may also be a similar seta (mastitibiala) on tibia-III, but without long plumose setæ admixed with much shorter ones ; leg-III with a genuala and a tibiala ; leg-I with 3 genualæ ; larvæ typically parasitic on reptiles but with few species also attacking birds and mammals.

Subgenus *Eutrombicula* Ewing.

Type : *Microthrombidium alfreddugesi* Oudemans, 1910.

Diagnosis.—Palpal claw 2-pronged, accessory prong ventral or ventro-internal ; mastitarsala-III strongly developed.

Eutrombicula (*Eutrombicula*) *deschiensi* Vercammen.

Trombicula (*Eutrombicula*) *deschiensi* Vercammen, 1956.

Remarks.—Recorded from 3 species of rodents from the Nefifik forest near Casablanca, Morocco.

Subgenus *Squamicola* n. subg.

Type : *Trombicula* (*Trombicula*) *lawrencei* Wharton and Fuller, 1952, *nom. nov.* for *Eutrombicula agamæ* Lawrence, 1949.

Diagnosis.—Palpal claw 3-pronged ; mastitarsala-III delicate and attentuated ; tarsala-II cylindrical rather than subconical, frequently longer or much longer than tarsala-I and tending to bear a bulbous or slightly expanded tip.

Remarks.—This is the *lawrencei*-group of Audy (1956) and it includes a number of species placed in an *ilesi-group* by Audy (1954). The main centre of evolution of the subgenus *Eutrombicula* appears to be in the tropics and subtropics of the New World with an extension into the Australasian region. The main centre of evolution of the subgenus *Squamicola* appears to be Africa, especially in association with the very rich reptile fauna of the drier southern parts. The following list includes some new records (with Natal Museum acquisition numbers) from material provided by Dr. Lawrence.

Eutrombicula (*Squamicola*) *draconensis* Lawrence.

Eutrombicula draconensis Lawrence, 1949 : 441.
Trombicula (*Trombicula*) *draconensis*, Wharton and Fuller, 1952 : 64.
Trombicula (*lawrencei*-group) *draconensis*, Audy, 1954 : 146, 148.

New Record.—Six (NM.4828—1, 2, 3, 6, 9, 10) ex the Drakensberg Crag Lizard (*Pseudocordylus s. subviridis*), Muller's Pass (6,000 ft.), Newcastle, Natal (*R. F. Lawrence*).

Eutrombicula (*Squamicola*) *gerrhosauri* Lawrence.

Eutrombicula gerrhosauri Lawrence, 1949 : 446.
Trombicula (*Trombicula*) *gerrhosauri*, Warton and Fuller, 1952 : 65.
Trombicula (*lawrencei*-group) *gerrhosauri*, Audy, 1954 : 146, 148 ; 1956 : 41, fig. 5*TG*.

New Record.—Ten (NM.4874—1 to 10) ex the Greater Plated Lizard (*Gerrhosaurus major* = *G. grandis*), Skukuza Game Reserve, Transvaal (*R. F. Lawrence*).

Eutrombicula (*Squamicola*) *homopholis* Lawrence.

Eutrombicula homopholis Lawrence, 1949 : 441.
Trombicula (*Eutrombicula*) *homopholis*, Wharton and Fuller, 1952 : 48.
Trombicula (*ilesi*-group) *homopholis*, Audy, 1954 : 146, 148.

New Record.—Ten (NM.2373—1 to 10) ex Wahlberg's Gecko (*Homopholis wahlbergii*), Nelspruit, Eastern Transvaal, 1939 (*R. F. Lawrence*).

Eutrombicula (*Squamicola*) *lawrencei* (Wharton and Fuller). n. comb.

Eutrombicula agamæ Lawrence, 1949 : 444.
Trombicula (*Trombicula*) *lawrencei* Wharton and Fuller, 1952 : 67 (new name ; preoccupied by *Thrombicula agamæ* André).
Trombicula (*lawrencei*-group) *lawrencei*, Audy, 1954 : 146, 148.

Eutrombicula (*Squamicola*) *lumsdeni* Radford.

Eutrombicula lumsdeni Radford, 1953 : 212.

Remarks.—Recorded from *Procavia abyssinicus meneliki*, Kaabong, Uganda. Not examined by us.

Eutrombicula (*Squamicola*) *microps* Lawrence.

Eutrombicula microps Lawrence, 1951 : 458.
Trombicula (*Trombicula*) *microps*, Wharton and Fuller, 1952 : 67.
Trombicula (" ungrouped ") *microps*, Audy, 1954 : 148.

Eutrombicula (*Squamicola*) *montensis* Lawrence.

Eutrombicula montensis Lawrence, 1949 : 444.
Trombicula (*Trombicula*) *montensis*, Wharton and Fuller, 1952 : 67.
Trombicula (*ilesi*-group) *montensis*, Audy, 1954 : 146, 148.

New Records.—Ten (NM.4808—1 to 10) ex Drakensberg Crag Lizard (*Pseudocordylus s. subviridis*), Drakensberg Mts., Giants Castle, Natal (*R. F. Lawrence*). One (NM.4816–2) ex Essex's Mountain Lizard (*Tropidosaura essexi*), Mont-aux-Sources, Drakensberg Mts., Natal (*R. F. Lawrence*).

Eutrombicula (*Squamicola*) *nivaria* (Lawrence).

Trombicula nivaria Lawrence, 1949 : 439.
Trombicula (*Trombicula*) *nivaria* Wharton and Fuller, 1952 : 68.
Trombicula (*ilesi*-group) *nivaria* Audy, 1954 : 146, 148.

Eutrombicula (*Squamicola*) *pachydactyli* Lawrence.

Eutrombicula pachydactyli Lawrence, 1949 : 443.
Trombicula (*Trombicula*) *pachydactyli* Wharton and Fuller, 1952 : 68.
Trombicula (*lawrencei*-group) *pachydactyli* Audy, 1954 : 146, 148 ; 1956 : 41, fig. 5*TP*.

Eutrombicula (*Squamicola*) *rhodesiensis* Lawrence.

Eutrombicula rhodesiensis Lawrence, 1949 : 448.
Trombicula (*Trombicula*) *rhodesiensis* Wharton and Fuller, 1952 : 69.
Trombicula (*ilesi*-group) *rhodesiensis* Audy, 1954 : 146, 148.

New Record.—Three (NM.4871—7, 10, 15) ex Blue-tailed Skink (*Mabuya quinquetæniata margaritifer*), S. Rhodesia, ii. 1948 (*R. F. Lawrence*).

Eutrombicula (*Squamicola*) *rhoptropi* Lawrence.

Eutrombicula rhoptropi Lawrence, 1949 : 445.
Trombicula (*Trombicula*) *rhoptropi* Wharton and Fuller, 1952 : 69.
Trombicula (*ilesi*-group) *rhoptropi* Audy, 1954 : 146, 148.

Genus *Sauriscus* Lawrence.

Type : *Sauriscus ewingi* Lawrence, 1949.

Diagnosis.—Distinguished from *Squamicola* by the presence of extrascutal posterolateral setæ, the presence of 2 (not 3) prongs to the palpal claw, and further modification of the anterior tibialæ of legs I and II (thickened and thumb-like).

Remarks.—This chigger is obviously derived from the same stem as *Squamicola* and indeed might well be regarded as a sister subgenus. It is unrelated to *Tecomatlana* Hoffman.

SUMMARY.

A new subgenus of *Eutrombicula*, *Squamicola*, is described to accommodate the *lawrencei*-group of trombiculids parasitic on African reptiles. *Sauriscus* Lawrence is phylogenetically very close to *Squamicola*.

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